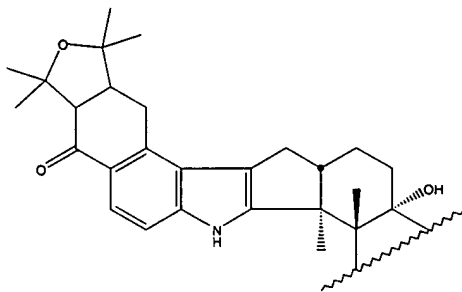


### AMENDMENTS TO THE CLAIMS

1. (Original) A method of preventing repolarisation or hyperpolarisation of a cell, wherein the cell contains a BK channel, including the administration to the cell of at least one pharmacologically effective amount of composition containing a BK channel antagonist containing the moiety shown in structure (I):



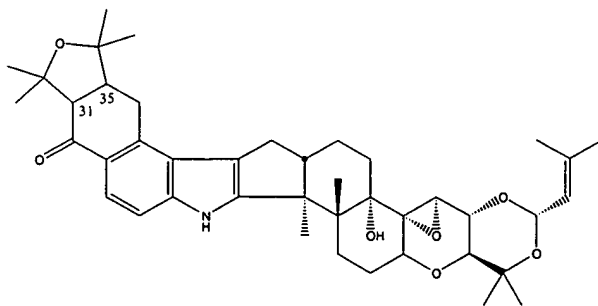
STRUCTURE (I)

or derivatives thereof.

2. (Original) The method as claimed in claim 1 wherein the derivatives of structure (I) are selected from the group consisting of: salts, analogues, isomers, and combinations thereof.

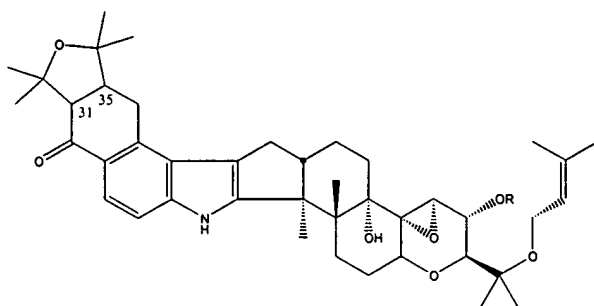
3. (Currently amended) The method as claimed in claim 1 ~~or claim 2~~ wherein the antagonist compound is selected from the group consisting of: lolitrem B, lolitrem A, lolitrem F, 31-*epilolitrem* F, 31-*epilolitrem* B, lolitrem E, lolitrem E acetate, lolitrem L, lolitrem G, lolitrem C, lolitrem M, lolitriol, lolitriol acetate, lolitrem N, lolitrem J, lolitrem H, lolitrem K, lolicine A and B, 30-desoxy lolitrem B-30 $\alpha$ -ol, 30-desoxy-31-*epilolitrem* B-30 $\alpha$ -ol, 30-desoxylolitrem B-30-ene lolilline and combinations thereof.

4. (Currently amended) The method as claimed in claim 1 ~~or claim 2~~ wherein the antagonist compound is selected from the group consisting of:



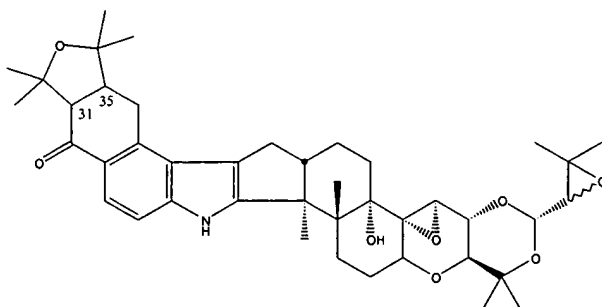
STRUCTURE (II)

which includes compounds selected from the group consisting of: lolitrem B = 31 $\alpha$ , 35 $\beta$  stereochemistry; 31-*epilolitrem* B = 31 $\beta$ , 35 $\beta$  stereochemistry; lolitrem F = 31 $\alpha$ , 35 $\alpha$ ; 31-*epilolitrem* F = 31 $\beta$ , 35 $\alpha$ ;



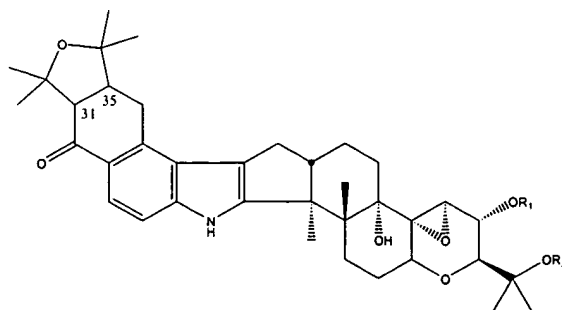
STRUCTURE (III)

which includes compounds selected from the group consisting of: lolitrem E = 31 $\alpha$ , 35 $\beta$  stereochemistry where R = H or acetate; lolitrem L = 31 $\alpha$ , 35 $\alpha$  stereochemistry where R = H or acetate;



STRUCTURE (IV)

which includes compounds selected from the group consisting of: lolitrem A = 31 $\alpha$ , 35 $\beta$  stereochemistry; lolitrem G = 31 $\alpha$ , 35 $\alpha$  stereochemistry;

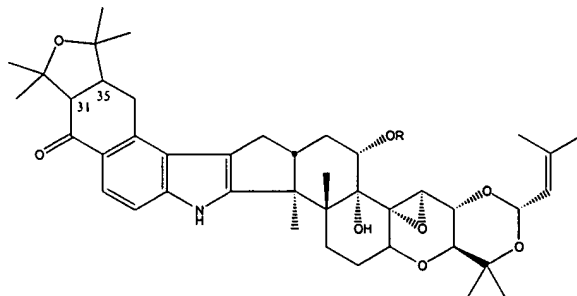


STRUCTURE (V)

which includes compounds selected from the group consisting of: lolitriol; = 31 $\alpha$ , 35 $\beta$  stereochemistry where R<sub>1</sub> = H or acetate and R<sub>2</sub> = H; lolitrem N = 31 $\alpha$ , 35 $\alpha$

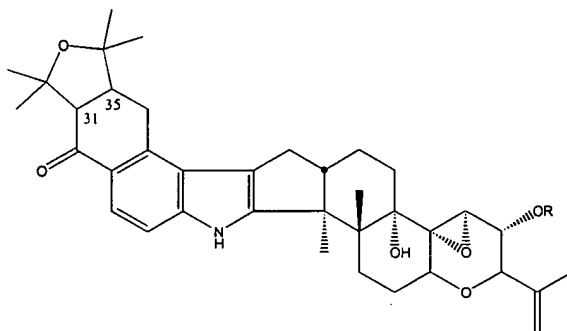
Int'l Appl. No. : PCT/NZ2004/000184  
Int'l Filing Date : August 13, 2004

stereochemistry where  $R_1=H$  or acetate and  $R_2=H$ ; Lolitrem J =  $31\alpha, 35\beta$  stereochemistry where  $R_1 = H$  or acetate and  $R_2 = \text{acetate}$ ;



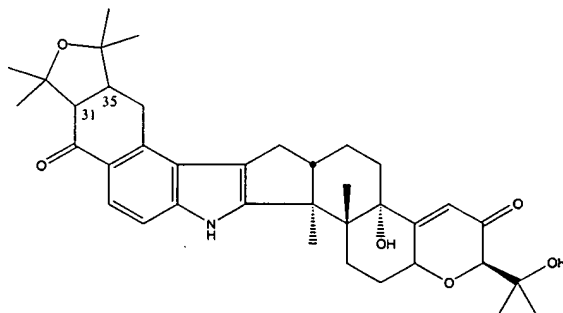
STRUCTURE (VI)

which includes lolitrem H =  $31\alpha, 35\beta$  stereochemistry where  $R = H$  or acetate;



STRUCTURE (VII)

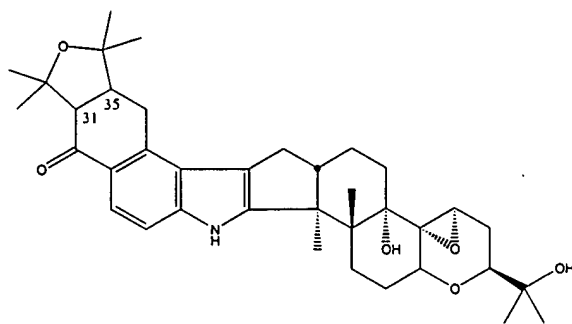
which includes lolitrem K =  $31\alpha, 35\beta$  stereochemistry, where  $R = H$  or acetate;



STRUCTURE (VIII)

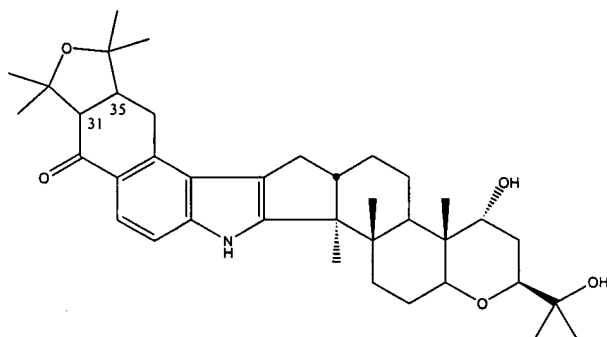
which includes lolilline =  $31\alpha, 35\beta$  stereochemistry;

Int'l Appl. No. : PCT/NZ2004/000184  
Int'l Filing Date : August 13, 2004



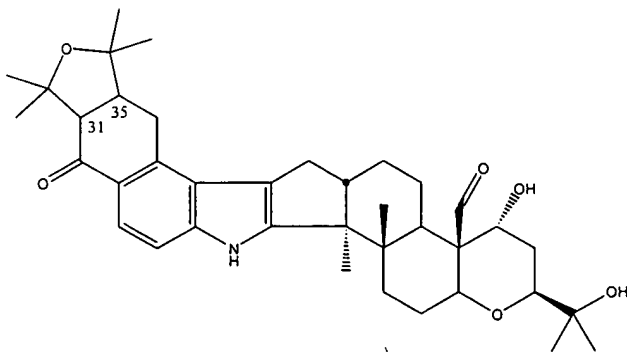
STRUCTURE (IX)

which includes lolitrem M =  $31\alpha$ ,  $35\beta$  stereochemistry;



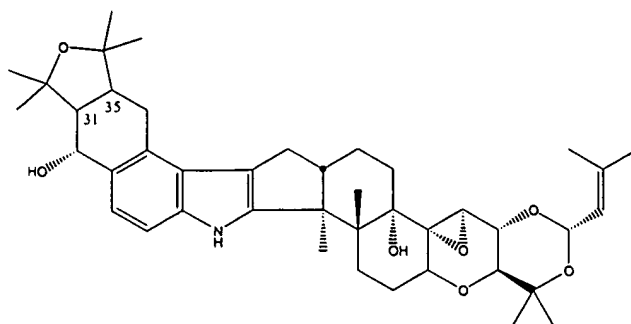
STRUCTURE (X)

which includes lolicine A =  $31\alpha$ ,  $35\beta$  stereochemistry;



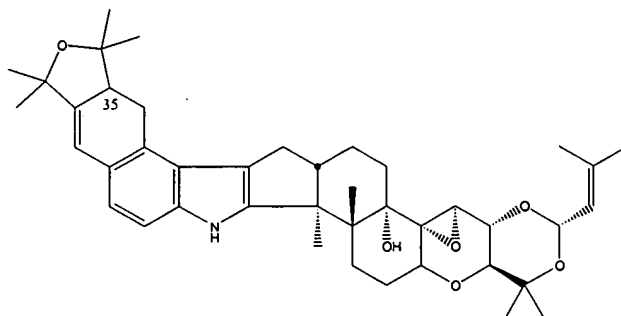
STRUCTURE (XI)

which includes lolicine B =  $31\alpha$ ,  $35\beta$  stereochemistry;



STRUCTURE (XII)

which includes compounds selected from the group consisting of: 30-desoxylolitre B-30 $\alpha$ -ol = 31 $\alpha$ , 35 $\beta$  stereochemistry; 30-desoxy-31-*epi*loliotre B-30 $\alpha$ -ol = 31 $\beta$ , 35 $\beta$  stereochemistry;



STRUCTURE (XIII)

which includes 30-desoxylolitre B-30-ene = 35 $\beta$  stereochemistry; and combinations of the above compounds.

5. (Currently amended) The method as claimed in ~~any of the above claims~~ Claim 1 wherein the composition further includes pharmaceutically and physiologically acceptable carriers.

6. (Currently amended) The method as claimed in claim ~~[[4]]~~ 5, wherein the pharmaceutically and physiologically acceptable carriers include components selected from the group including; fillers; excipients; modifiers; humectants; stabilisers; emulsifiers; diluents; and other formulation components such as a use of a lipid vehicle.

7. (Currently amended) The method as claimed in ~~any of the above claims~~ Claim 1, wherein the composition is administered in a form selected from the group including: an injection; a tablet; a capsule; a suppository; an injection; a suspension; a drink or tonic; a syrup; a

powder; an ingredient in solid or liquid foods; a nasal spray; a sublingual wafer; a transdermal patch; a transdermal injection; and combinations thereof.

8. (Currently amended) The method as claimed in ~~any of the above claims~~ Claim 1, wherein the BK channel antagonist compound or compounds are extracted from endophyte-infected plants and seeds.

9. (Currently amended) The method as claimed in ~~any of claims 1 to 6~~ Claim 1, wherein the BK channel antagonist compound or compounds are extracted from fungal cultures.

10. (Currently amended) The method as claimed in ~~any of claims 1 to 6~~ Claim 1, wherein the BK channel antagonist compound or compounds are derived by chemical synthesis.

11. (Currently amended) The method as claimed in ~~any of claims 1 to 6~~ Claim 1, wherein the BK channel antagonist compound or compounds are extracted from heterologous expression systems ~~including but not limited to bacteria, yeast, fungi, plants and animal cells.~~

12. (Currently amended) The method as claimed in claim ~~[[7]]~~ 8 wherein the perennial ryegrass seed is from *Lolium perenne*.

13. (Currently amended) The method as claimed in ~~any of the above claims~~ Claim 1, wherein the BK channel antagonist compound or compounds has activity against both alpha ( $\alpha$ ) subunit and alpha plus beta ( $\beta$ ) accessory subunit ( $\beta_1$  to  $\beta_4$ ) channels.

14. (Currently amended) The method as claimed in ~~any of claims 1 to 4~~ Claim 1, wherein, for lolitrem B, the degree of antagonist inhibition is approximately 97% for a composition containing approximately 20nM lolitrem B.

15. (Currently amended) The method as claimed in ~~any of claims 1 to 4~~ Claim 1, wherein, for lolitrem B, the half maximal degree of antagonist inhibition ( $IC_{50}$ ) is found for a composition containing approximately  $3.7 \pm 0.4$  nM of lolitrem B.

16. (Currently amended) The method as claimed in ~~any of claims 1 to 4~~ Claim 1, wherein, for lolitriol, the degree of antagonist inhibition is approximately 100% for a composition containing approximately 1000 nM lolitriol.

17. (Currently amended) The method as claimed in ~~any of claims 1 to 4~~ Claim 1, wherein, for lolitriol, the half maximal degree of antagonist inhibition ( $IC_{50}$ ) is found for a composition containing approximately 195 nM of lolitriol to inhibit  $\alpha$  and  $\beta_1$  BK channel activity

**Int'l Appl. No. : PCT/NZ2004/000184**  
**Int'l Filing Date : August 13, 2004**

18. (Currently amended) The method as claimed in ~~any of claims 1 to 4~~ Claim 1, wherein, for lolitriol, the half maximal degree of antagonist inhibition ( $IC_{50}$ ) is found for a composition containing approximately  $536 \pm 16$  nM of lolitriol to inhibit  $\alpha$  and  $\beta_4$  activity.

19. (Currently amended) The method as claimed in ~~any of claims 1 to 4~~ Claim 1, wherein, for 31-*epilolitre*m B, the degree of antagonist inhibition is approximately 100% for a composition containing approximately 200nM 31-*epilolitre*m B.

20. (Currently amended) The method as claimed in ~~any of claims 1 to 4~~ Claim 1, wherein, for 31-*epilolitre*m B, the half maximal degree of antagonist inhibition (IC<sub>50</sub>) is found for a composition containing approximately 58 ±6 nM of 31-*epilolitre*m B to inhibit α and β<sub>1</sub> activity.

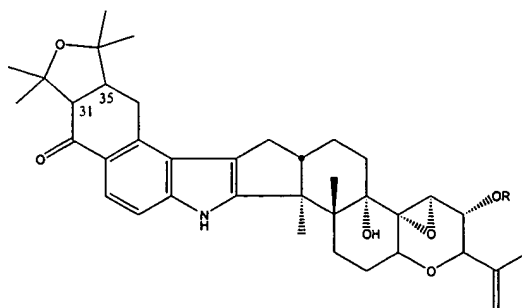
21. (Currently amended) The method as claimed in ~~any of claims 1 to 4~~ Claim 1, wherein, for 31-*epilolitre*m B, the half maximal degree of antagonist inhibition (IC<sub>50</sub>) is found for a composition containing approximately 49 nM of 31-*epilolitre*m B to inhibit  $\alpha$  and  $\beta_4$  activity.

22. (Currently amended) The method as claimed in ~~any of claims 1 to 4~~ Claim 1, wherein, for lolitrem E, the degree of antagonist inhibition is approximately 100% for a composition containing approximately 100 nM lolitrem E.

23. (Currently amended) The method as claimed in ~~any of claims 1 to 4~~ Claim 1, wherein the antagonist effect of the composition is not able to be reversed by wash out for concentrations of 10 nM or greater of lolitrem B compound.

Claims 24-46 (Cancelled)

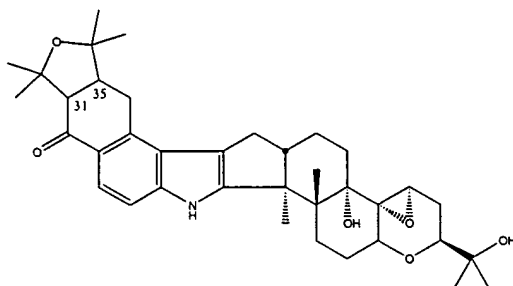
47. (Original) A composition that contains a pharmacologically effective amount of at least one BK channel antagonist compound containing the moiety shown in structure (VII):



STRUCTURE (VII)

which includes lolitrem K = 31 $\alpha$ , 35 $\beta$  stereochemistry, where R = H or acetate.

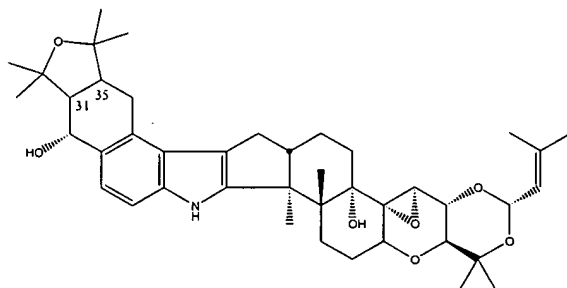
48. (Original) A composition that contains a pharmacologically effective amount of at least one BK channel antagonist compound containing the moiety shown in structure (IX):



STRUCTURE (IX)

which includes lolitrem M = 31 $\alpha$ , 35 $\beta$  stereochemistry.

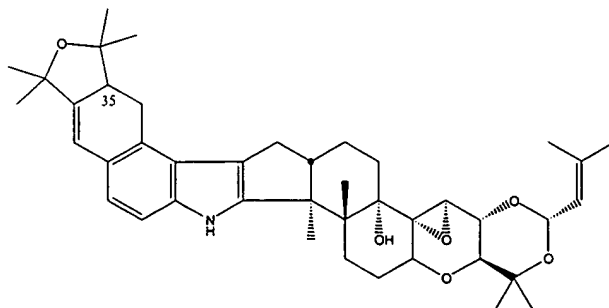
49. (Original) A composition that contains a pharmacologically effective amount of at least one BK channel antagonist compound containing the moiety shown in structure (XII):



STRUCTURE (XII)

which includes compounds selected from the group consisting of: 30-desoxylolitrem B-30 $\alpha$ -ol = 31 $\alpha$ , 35 $\beta$  stereochemistry; 30-desoxy-31-epilolitrem B-30 $\alpha$ -ol = 31 $\beta$ , 35 $\beta$  stereochemistry.

50. (Original) A composition that contains a pharmacologically effective amount of at least one BK channel antagonist compound wherein the antagonist compound is structure (XIII):





**Int'l Appl. No. : PCT/NZ2004/000184**  
**Int'l Filing Date : August 13, 2004**

**STRUCTURE (XIII)**

which includes 30-desoxylolitrem B-30-ene = 35 $\beta$  stereochemistry.

51. (New) The method as claimed in Claim 11 wherein the heterologous expression system is selected from the group consisting of bacteria, yeast, fungi, plants, and animal cells.